One Titan
Titan International, Inc.
Mr. Michael Troyanovich
Corporate Secretary and General Council
201 Spruce Street
Quincy, Illinois 62301

Re: NOTICE OF DISAPPROVAL
Administrative Order, Docket No. 86-F0011
Dico's Performance Evaluation Report No. 29, Groundwater Extraction and Treatment System, Des Moines TCE Site, Des Moines Iowa

Dear Mr. Troyanovich:

The U.S. Environmental Protection Agency (EPA) received Dico's revised Performance Evaluation Report No. 29 (Report) and response to comments dated October 13, 2015. The EPA has reviewed the Report and the response to comments and disapproves the Report.

As outlined in paragraph 34 of the 1986 Administrative Order (AO), the remedial action goals of the groundwater treatment system are to *"provide for the sustained use of the North Gallery as a source of drinking water."* This is supposed to be achieved by *"isolating the northern-most portion of the North Gallery from the remainder of the gallery system through the use of a physical barrier to restrict groundwater flow into the North Gallery, groundwater collection and removal systems to collect the contaminated groundwater and to control groundwater movement, and treatment and disposal of the extracted groundwater..."*. Dico has not provided data to demonstrate that shutting down the system and pursuing an alternative remedial action can accomplish the goals of the remedial action. Specifically, Dico has not shown that shutting down the groundwater pump-and-treat (P&T) system will control the groundwater movement and prevent migration of contaminated groundwater into the North Gallery. A copy of this letter will be attached to the Report in the project file to document the EPA's disagreement with Dico's conclusions regarding the groundwater P&T system at the Des Moines TCE Site (Site).

If Dico would like to pursue an alternative remedial action, a work plan needs to be submitted to EPA to outline what data needs to be collected to show that an alternative remedial action will meet the remedial action goals at the Site. Dico mentioned monitored natural attenuation (MNA) in the response to comments; however, Dico has not recently submitted sufficient and adequate data to show that the appropriate conditions for MNA exist at the Site to address the chemicals of concern (COCs). The data necessary to determine if aerobic or anaerobic conditions are present at the Site can be easily collected while the P&T system is operational. With only current data available (Table 4 in the Report), MNA does not seem like a viable option since only one well sampled in April 2014 had vinyl chloride. With only this data available, it appears that even if degradation is occurring, it is not occurring strong enough to completely degrade Site COCs. Until sufficient and appropriate data is provided to show that the overall remedial action goals can be met by an alternative action, the EPA will continue to disapprove reports that include conclusions stating that the groundwater P&T system can be eliminated and the P&T system shall remain in place to prevent potential impacts to the city water supply.

In an effort to avoid continued disagreement in future reports, the EPA has also provided additional information on other issues to further outline reasons why the EPA does not agree with other conclusions reached by Dico in the Report. While Dico is under no obligation to install piezometers, data is not presented to support the statement that "*hydraulic head measurements collected quarterly*

during 2014 suggest a groundwater capture width of roughly 100 feet" due to lack of hydraulic head measurements closer to the extraction wells. Data within 100 feet of the well is necessary to show the vertical profile of the capture zone. The vertical profile should be verified since only three of the original seven extraction wells are still in operation at the site. If any other extraction well need to be discontinued, the capture zone will be needed to determine if the well needs to be replaced.

Modifications are necessary to Figures 11 in future reports unless additional data is provided. Please review the EPA 2003 document number 600/R-08/003 (A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems). Examples of modifications are listed below and are supported by the above reference document:

- The equipotential line around the extraction wells needs to be modified based on data supporting 100 feet captures zone. If no data is presented, the lines should be removed or dashed, indicating an interpretation.
- Several equipotential lines are not labeled.
- Data needs to be presented to support interpretation outside of the monitoring well network or the lines should be removed due to lack of data or dashed indicating an interpretation. For example, the equipotential line around well NW-14 should not be a solid line circle since there was no data available to the north, northwest or west of the well. The same is true for well P-2 since data is not presented to the north, northeast or east of the well.

In addition, a review of the file shows that the EPA requested a letter or work plan outlining steps Dico intends to take to prevent prolonged system shutdowns due to maintenance or other unplanned occurrences. The EPA has not received the requested letter/work plan and it is past the requested due date. Please submit this letter or work plan within 30 days of receipt of this letter.

If you have any questions concerning this matter or comments attached concerning future reports, please contact me at (913) 551-7977.

Sincerely,

Erin S. McCoy, P.G.
Remedial Project Manager
Iowa/Nebraska Remedial Branch
Superfund Division

Enclosure

Cc: Mr. Brian Mills, Consultant, DICO
Mr. Gazi George, Consultant, DICO
Mr. Hylton Jackson, INDR
Mr. Vern Rash, DMWW

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